

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 11 and 12, and amend claims 1, 5, and 44 as follows:

Listing of Claims:

1. (Currently Amended) An apparatus for planarizing a microelectronic substrate, comprising:

a platen having a support surface oriented at an angle offset from horizontal during operation;

a non-continuous polishing pad adjacent to the support surface of the platen and having a planarizing surface offset from horizontal and generally parallel to the support surface of the platen during operation;

a substrate carrier at least proximate to the planarizing surface of the polishing pad, the carrier having at least one engaging surface for engaging the microelectronic substrate and biasing the microelectronic substrate against the polishing pad, at least one of the carrier and the polishing pad being movable relative to the other to remove material from the microelectronic substrate;

a frame;

a supply spindle coupled to the frame and positioned to receive the polishing pad;

a take-up spindle coupled to the frame and spaced apart from the supply spindle, the supply spindle being positioned above the take-up spindle, the take-up spindle being positioned to receive a used portion of the polishing pad, the platen being coupled to the frame and positioned proximate to the supply spindle and the take-up spindle; and

a ventilation supply port proximate to the supply spindle and a ventilation exit port proximate the take-up spindle for passing ventilation gas adjacent the polishing pad when the polishing pad is supported, wherein the polishing pad has a planarizing surface plane and the supply port directs the ventilation gas generally parallel to the planarizing surface plane downwardly toward the ventilation exit port.

2. (Original) The apparatus of claim 1 wherein the support surface of the platen and the planarizing surface of the polishing pad are approximately vertical during operation.

3. (Withdrawn) The apparatus of claim 1 wherein the platen and the polishing pad each have a generally circular planform shape.

4. (Canceled)

5. (Currently Amended) An apparatus for planarizing a microelectronic substrate, comprising:

a frame;

a supply spindle coupled to the frame and positioned to receive a non-continuous elongated polishing pad;

a take-up spindle coupled to the frame and spaced apart from the supply spindle, the supply spindle being positioned above the take-up spindle, the take-up spindle being positioned to receive a used portion of the elongated polishing pad;

a platen positioned proximate to the supply spindle and the take-up spindle, the platen having a generally flat support surface for supporting a portion of the elongated polishing pad, the support surface being oriented at an angle offset from horizontal during operation; and

a substrate carrier at least proximate to a planarizing surface of the polishing pad when the polishing pad is installed on the spindles, the carrier having at least one engaging surface for engaging the microelectronic substrate and biasing the microelectronic substrate against the polishing pad, at least one of the carrier and the polishing pad being movable relative to the other to remove material from the microelectronic substrate; and

a ventilation supply port proximate to the supply spindle and a ventilation exit port proximate the take-up spindle for passing ventilation gas adjacent the polishing pad when the polishing pad is supported, wherein the polishing pad has a planarizing surface plane and the

supply port directs the ventilation gas generally parallel to the planarizing surface plane downwardly toward the ventilation exit port.

6. (Original) The apparatus of claim 5 wherein the support surface of the platen is oriented approximately vertically during operation.

7. (Withdrawn) The apparatus of claim 5 wherein the support surface forms an angle of at least approximately 0.6 degrees relative to horizontal during operation.

8. (Withdrawn) The apparatus of claim 5 wherein the support surface forms an angle in the range of between approximately 0.6 degrees and approximately 1.2 degrees relative to horizontal during operation.

9. (Cancelled)

10. (Original) The apparatus of claim 5 wherein the take-up spindle is coupled to an actuator for rotating the take-up spindle relative to the frame.

11.-12. (Cancelled)

13. (Original) The apparatus of claim 5, further comprising a pad conditioner positioned proximate to the polishing pad for conditioning a planarizing surface of the polishing pad.

14. (Original) The apparatus of claim 13 wherein the pad conditioner includes a plurality of orifices proximate to the polishing pad for directing a cleansing fluid toward the polishing pad.

15. (Original) The apparatus of claim 13 wherein the pad conditioner includes an end effector having a conditioning surface positioned to remove material from the polishing pad, the end effector being coupled to an actuator for moving the end effector relative to the polishing pad.

16. (Withdrawn) The apparatus of claim 5, further comprising the elongated polishing pad, wherein the elongated polishing pad is attached at one end to a supply roll on the supply spindle and is attached at an opposite end to a take-up roll on the take-up spindle, the elongated polishing pad extending directly from the supply roll to the platen without passing adjacent another roller.

17-43 (Cancelled)

44. (Currently Amended) An apparatus for planarizing a microelectronic substrate, comprising:

a platen having a support surface for supporting a planarizing medium;

a planarizing medium supported by the support surface of the platen, the planarizing medium having a planarizing surface opposite the support surface for engaging the microelectronic substrate, the planarizing surface of the planarizing medium being oriented at a non-zero angle relative to horizontal;

a carrier at least proximate to the planarizing surface of the planarizing medium, the carrier having at least one engaging surface for engaging the microelectronic substrate and biasing the microelectronic substrate against the planarizing medium, at least one of the carrier and the planarizing medium being movable relative to the other to remove material from the microelectronic substrate;

an at least partially gas-tight enclosure around the carrier and the planarizing medium, the enclosure having an entrance port for admitting ventilating gas to the enclosure and an exit port for removing the ventilating gas from the enclosure, at least one of the entrance port

and the exit port being coupleable to a gas propulsion device for moving the ventilating gas relative to the enclosure; ~~and~~

a controller operatively coupled to a flow path of the ventilating gas to control at least one of a pressure within the enclosure and a flow rate of the ventilating gas through the enclosure; and

a ventilation supply port proximate to the supply spindle and a ventilation exit port proximate the take-up spindle for passing ventilation gas adjacent the planarizing medium when the planarizing medium is supported, wherein the planarizing medium has a planarizing surface and the supply port directs the ventilation gas generally parallel to the planarizing surface downwardly toward the ventilation exit port.

45. (Original) The apparatus of claim 44 wherein the planarizing medium includes a polishing pad having abrasive particles fixedly dispersed therein.

46. (Original) The apparatus of claim 44 wherein the gas propulsion device includes a fan.

47. (Cancelled)

48. (Original) The apparatus of claim 44 wherein the controller is electrically coupled to the gas propulsion device.

49-76 (Cancelled)